The paragraph beginning on page 8 line 19:

Figure 3 is a flowchart of an overall process provided by a presently preferred example process 100 of a preferred embodiment of the invention. Process 100 is divided into two overall stages: an authoring stage 102, and a run-time stage 104.

IN THE CLAIMS

Please substitute the following amended claim(s) for corresponding claim(s) previously presented.

1. (Amended) A method for morphing and displaying a texture comprising:

pre-decomposing at least some texels of a texture map into respective texel color components;

predetermining, based on said decomposed texture map and target texel color component states defined by a target morph texture map defining a target morph texture, at least one incremental morph parameter corresponding to said respective texel color components,

using said incremental morph parameter during real-time imaging to incrementally interpolate said texel color components toward target texel color component states through at least one intermediate morph texel color component state; and

displaying an image based at least in part on said intermediate morph texel color state.

2. (Amended) A method as in claim 1 wherein said incrementally interpolating comprises repetitively adding said predetermined incremental morph parameter to said predetermined texel components to produce a corresponding sequence of intermediate morph texel component states.

3. A method as in claim 1 wherein said incrementally interpolating comprises using an integer arithmetic calculation to repetitively increment or decrement said plural texel components based on said predetermined incremental morph parameter.

4. (Amended) A method as in claim 1 wherein said predetermining calculates said incremental morph parameter as the amount of change in said texel components for each successive time period within a morphing procedure, and said incrementally interpolating changes said texel components in response to the integer portions of said incremental morph parameters.

5. (Amended) A method as in claim 4 wherein said successive time periods comprise image frame times.

6. (Amended) A method as in claim 4 wherein said incrementally interpolating conditions said change in said texel components based on which of said successive time periods has occurred within said morphing procedure to minimize the number of calculations required to morph said texture.

7. (Amended) A method as in claim 4 further including selectively adding integers to or subtracting integers from said integer portions to reduce approximation errors in the context of integer arithmetic operations.

8. (Amended) A method as in claim 1 wherein said incremental interpolation comprises incrementing or decrementing said texel components by integer approximations of said determined morph parameters, and compensating for approximation errors by performing at least one floating point operation to set said texel components to target texel component values.

B8 CONT.

9. (Amended) A method as in claim 1 wherein said incremental interpolation selectively interpolates said texel components based on an interlace factor.

10. (Amended) A method as in claim 1 further including conditioning said incremental interpolation step based on an interlace factor.

11. (Amended) A method as in claim 1 further including calculating a frame counter corresponding to said texel components, and selectively incrementing or decrementing said texel components in response to said frame counter.

12. (Amended) A method as in claim 1 further including the preliminary step of storing said decomposed texel components in separate texel component arrays.

13. (Amended) A method as in claim 12 wherein said texel components comprise red, green and blue color values and an alpha value.

14. (Amended) A system for morphing and displaying a texture comprising:

a color decomposer that pre-decomposes at least some texels of a texture map into respective texel color components;

a predeterminer that predetermines incremental texture component morph parameters based on said decomposed texels and target morph texture texel color component states,

B8 CONT.

an incremental interpolator that incrementally interpolates, in response to said predetermined incremental morph parameters, said texel components toward said target texel color component states through at least one intermediate morph texel component state; and

a real-time image generator that generates a display based at least in part on said intermediate morph texel component state.

15. (Amended) A system as in claim 14 wherein said incremental interpolator repetitively adds said incremental morph parameters to the texel components to produce a corresponding sequence of intermediate morph texel component states.

16. A system as in claim 14 wherein said incremental interpolator comprises an arithmetic calculator that performs a repetitive integer arithmetic calculation to

repetitively increment or decrement said plural texel components based on said determined incremental morph parameters.

sub C1

17. (Amended) A system as in claim 14 wherein said incremental interpolator calculates said incremental morph parameter as the amount of change in said texel components for each successive time period within a morphing procedure, and changes said texel components in response to the integer portion of said incremental morph parameters.

B9

18. (Unamended) A system as in claim 17 wherein said successive time periods comprise image frame times.

sub C1

19. (Amended) A system as in claim 17 wherein said incremental interpolator conditions said change in said texel components based on which of said successive time periods has occurred within said morphing procedure to as to reduce the number of calculations required to morph said texture.

B10

20. (Amended) A system as in claim 17 further including an adder that selectively adds or subtracts 1 relative to said integer portion to minimize approximation errors in the context of integer arithmetic operations.

21. (Amended) A system as in claim 14 wherein said incremental interpolator increments or decrements said texel components by integer approximations of said determined morph parameters, and compensates for approximation errors by performing

at least one floating point operation to set said texel components to a target texel component value.

B10 cont.

22. (Amended) A system as in claim 14 wherein said incremental interpolator selectively interpolates said texel components based on an interlace factor.

23. (Amended) A system as in claim 14 further including a conditioner that conditions said incremental interpolation based on an interlace factor.

24. (Unamended) A system as in claim 14 further including a frame counter corresponding to said texel component, and wherein said incremental interpolator selectively increments or decrements said texel component in response to said frame counter.

25. (Unamended) A system as in claim 14 further including a separate array storing said texel component arrays.

B11 in part

26. (Amended) A system as in claim 25 wherein said texel components comprise red, green or blue color values and an alpha value.

27. An efficient texture morphing method for morphing and displaying textures using a real-time interactive 3D graphics system including user-manipulable controls, said system displaying at least one 3D texture-mapped object based at least in part on a morphed texture map comprising plural texels, said texture morphing method including:

(a) before imaging time, pre-decomposing said texture map into plural texel components and precalculating incremental morph parameter values for the texel components;

(b) during real-time imaging, incrementally changing the values of said plural texel components over time based on said calculated incremental morph parameter values; and

(c) during real-time imaging, generating images in real time based at least in part on said incrementally-changing texel component values.

---

sub c1

28. (Amended) A method as in claim 27 wherein said calculating step (a) comprises calculating the value of $\Delta r = (TC-SC) / (FR * T)$, where SC is the source texel component value, TC is the target texel component value, FR is the frame rate and T is the morphing duration.

B12

29. (Amended) A method as in claim 28 wherein said incrementally changing comprises repetitively incrementing or decrementing said plural texel component values by uniform amounts at a first predetermined frequency based on the integer portion of Δr, and adding or subtracting a further integer value at a further predetermined frequency less than said first predetermined frequency.

30. (Amended) A method as in claim 29 wherein said first and second predetermined frequencies are each based on image frame rate.

31. (Amended) A method as in claim 29 wherein said second predetermined frequency is based on a frame counter that counts a predetermined number of image frames.

32. (Amended) An efficient texture morphing method for morphing and displaying textures using a real time interactive 3D graphics system including user-manipulable controls, said system displaying at least one 3D object based at least in part on a morphed texture map comprising plural texels each comprising plural texel components, said texture morphing and display method including:

B12 cont.

(a) before real-time imaging, pre-decomposing said texels into plural texel components and precalculating incremental morph parameter values for said texel components, including rounding down calculated incremental interpolation values to the closest integer values to provide integer results and calculating period counter values based on non-integer remainders of said calculated incremental interpolation values;

(b) at least in partial response to user interaction with said controls, changing texel component values at a first periodic frequency based on said integer results;

(c) at least in partial response to said period counter, further changing said texel component values at a second periodic frequency less than said first periodic frequency to compensate for approximation errors introduced by step (b); and

generating an image display based at least in part on said changed and further changed texel component values.

33. In a real-time interactive graphics system including at least one user-manipulable control, a method for generating animation objects in real time by morphing a source texture map including plural texels each having plural components, into a target texture map including plural texels each having plural components, said method comprising:

(a) calculating incremental morph parameter values for texels of said first texture map, and incrementally interpolating the value of said plural texel components of said first texture map over time based on said calculated uniform incremental morph parameter values so as to morph said first texture map toward said second texture map;

(b) using an intermediate texture map generated by step (a) to texture map an animation object;

(c) controlling at least one of the displayed orientation and position of said texture-mapped animation object at least in part in response to user manipulation of said control; and

(d) generating an image based at least in part on said controlled texture-mapped animation object.

34. (Amended) A storage device for use with a real-time interactive graphics system including at least one user-manipulable control, said storage device storing information used by said system for generating animation objects in real time by morphing a source texture map including plural texels each having plural components,

into a target texture map including plural texels each having plural components, said storage device comprising:

a first storage portion that stores information controlling said system to calculate incremental morph parameter values for texels of said source texture map, and to incrementally interpolate the values of said plural texel components of said first texture map over time into values of plural texel components of said target texture map by uniform integer amounts based on said calculated incremental morph parameter values so as to morph said source texture map through at least one intermediate texture map toward said target texture map;

B13 cont.

a second storage portion that stores information controlling said system to use said intermediate texture map to texture map an animation object; and

a third storage portion that stores information controlling at least one of the displayed orientation and position for display of said texture-mapped animation object at least in part in response to user manipulation of said control.